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AMSAT NEWS SERVICE
ANS-202

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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ANS-202 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 202.01
From AMSAT HQ SILVER SPRING, MD.
July 21, 2013
To All RADIO AMATEURS
BID: $ANS-202.01

2013 AMSAT-NA Board of Directors Ballot Mailed July 15th.

This year there are eight candidates running for the AMSAT-NA Board of Directors. The four candidates receiving the highest number of votes will be seated as voting Board Members with two year terms. The two candidates receiving the next highest number of votes will be non-voting Alternate Board Members with terms of one year. Please vote for no more than four candidates.

Ballots were mailed to members in good standing by July 15th, and must be returned to the AMSAT-NA office no later than the close of business on September 15th, 2013. If you have not received your ballot by August 5th, please contact the AMSAT Office. Ballots sent to

members outside North America are automatically sent via air mail. It
is suggested that they be returned the same way.

AMSAT-NA Board candidates in alphabetical order by last name:

Barry Baines, WD4ASW
Alan Biddle, WA4SCA
Steve Coy, K8UD
Frank Griffin, K4FEG
Mark Hammond, N8MH
Brian Klofas, KF6ZEO
JoAnne Maenpaa, K9JKM
Tony Monteiro, AA2TX

[ANS thanks the AMSAT Office for the above information]

Space Station ARISS Software Upgraded by Student For Students

Nolan Replogle hasn't yet had the chance to speak with an astronaut, but he
would sure like to. And now, thanks in part to the work he did as a NASA
intern, other students around the world will have a better chance for
opportunities to do just that-have live contact with International Space
Station (ISS) astronauts.

"Yeah, I'd love to talk to astronauts! Who wouldn't?" said Replogle. "I
think
it's really cool! I can imagine it really helps inspire a lot of kids. I
think
that's the main purpose [of the ISS Ham Radio project], to inspire and
engage
kids to learn about space exploration."

Replogle interned with the Education Projects Office at NASA's Johnson Space
Center in Houston from January to April. His role was to update the planning
software for the Amateur Radio on the International Space Station (ARISS),
which is used to help schedule contact events.

"I brought Nolan on board to upgrade the current ARISS mission planning
software, which was critical for scheduling," said Jane Gensler, former
manager
of the Education Projects Office. "The software was one-fault tolerant,
outdated, user and time intensive. We wanted to update it to something
that was
user-friendly with a graphic user interface, efficient and with reduced user
error where possible."

The original software's lack of a user interface meant that people needed to
input data directly into text files, and then run the program to see if it
worked. As a computer engineering major at Oklahoma State University,
Replogle
quickly got to work using his programming skills to create a more
user-friendly
interface for the software. Replogle named the upgraded software ARISS
Assistant (ARRISA).

"The software was virtually impossible to use, unless you spent days and
days
studying it," said Replogle.

"The developer didn't develop it to be distributed, but for his own use, so

for that reason he was the only one who really knew how to use it. It was convoluted in a lot of ways, and the technology was outdated. So, my goal was
to make it easier to use to save time. The most challenging part was trying to
interpret the original author's code and program, because I had to understand
that to translate it to this new technology."

Now, with Replogle's updates, there is a graphic user interface that allows users to click on buttons to enter information into text boxes. This automated
feature is more intuitive and requires a lot less data entry.

An added feature of the software allows for more efficient integration of the
data generated by ARISSA to planning tools used by NASA's Trajectory Operations
Officer (TOPO) console position in the Mission Control Center at Johnson. The
TOPO uses data from ARISSA as a baseline for upcoming space station contacts,
updating the inputs for accuracy as the event date approaches.

"I was broad in my description to Nolan of the project, not understanding a lot of the programming and steps," said Gensler. "He took the initiative to make it his project and took it to a level that I could not have envisioned -
not being an expert in this area."

NASA's Teaching from Space Office works in coordination with the global ARISS
volunteer team for the ISS Ham Radio project to put students in touch with astronauts orbiting 220 miles above the schools on Earth. The students have about 10 minutes to ask the astronauts aboard the station space-related questions about living in microgravity, science, technology and any number of
other curiosities that come from their creative minds.

To plan for these contacts, organizers have to predict the location of the space station in orientation to the ground. With this knowledge, they pinpoint
the dates, times and geography of possible connections. This is where the ARRISA software comes into play as a forecasting tool.

"Everybody I've shown it to says it looks pretty impressive," said Replogle. "I demonstrated it to various groups from ARISS, and they said they were excited about using it."

With Replogle's upgrades, Gensler anticipates increases in efficiency and reduced errors, which may lead to more contact opportunities between students
and crews of the space station.

Upcoming contacts currently include the Boy Scouts of America 2013 National Jamboree in Mt. Hope, W. Va., scheduled to take place during the week of July
18-23. ARISS planners use the software to identify multiple options for exact
dates and times; they finalize the event one week before the contact.

"The undergraduate student workforce is amazing and can bring innovation, creativity and efficiencies into our programs for little cost with big benefits," said Gensler.

"I'm not a software engineer or a computer programmer, but I can find someone
like Nolan who is passionate about programming and wants to work for NASA and
make a positive difference in our products and services. His success in
upgrading the mission planning system in such a short timeframe makes me want
to bring more interns in behind him to continue implementation and developing
even more upgrades in other areas."

U.S. education organizations interested in hosting an ARISS communication can
contact NASA's Teaching from Space Office for proposal information.
International schools should apply via the ARISS website for consideration.

http://www.space-travel.com/reports/
Space_Station_ARISS_Software_Upgraded_by_Student_For_Students_999.html

[ANS thanks Jessica Nimon,ISS Science News,for the July 18 article]

ARRL Teacher's Institute in Wireless Technology makes Satellite Contacts

Educators attending the ARRL's Teacher's Institute in Wireless Technology at
Rocklin, CA made two satellite contacts utilizing SaudiSat 1C. At approximately
1844 PDT, on July 16, Instructor Tommy Gober, N5DUX, assisted with two
successful contacts using the W1AW/6 callsign. One successful contact was
reported to be in Cleveland, Ohio. Tommy used a HT with an Arrow antenna.

For more information on the ARRL program, please see:

http://www.arrl.org/teachers-institute-in-wireless-technology

[ANS thanks Carolyn, KF6JQE for the above information]

UKube-1 with Amateur Radio Transponder may launch in October

BBC News is reporting that the UK Space Agency’s first CubeSat UKube-1, being
built by Clyde Space in Glasgow, may launch in late October 2013.

Clyde Space Senior Systems Engineer Steve Greenland will be giving a
presentation on UKube-1 to the AMSAT-UK International Space Colloquium which
takes place July 20-21 at the Holiday Inn, Guildford, GU2 7XZ, UK.

The Colloquium is open to all but for those unable to attend the event all 18
presentations including UKube-1 will be web streamed live on the BATC site at

http://batc.tv/ch_live.php?ch=3

UKube-1 will carry a set of AMSAT-UK FUNcube-2 boards which will provide:
• 1200 bps BPSK telemetry beacon on 145.915 MHz

• Linear transponder downlink 145.930-145.950 MHz for SSB/CW communications
• Linear transponder uplink 435.080-435.060 MHz

In addition UKube-1 also carries:
• ISIS 1200 bps BPSK telemetry beacon on 145.840 MHz
• UKSEDS myPocketQub 442 on 437.425-437.525 MHz with 11 mW output using spread
spectrum
• 1 watt transmitter on 2401.0 MHz from Cape Peninsula University of Technology (CPUT), Cape Town, for high data rate mission data downlinking using
up to 1 Mbps QPSK or OQPSK modulation

Gunter’s Space Page lists UKube-1 as manifested on a Soyuz-2-1b Fregat-M rocket to be launched from Baikonur in Kazakhstan.

If the launch does go ahead as planned in late October then the FUNcube-2 boards will be in orbit before the FUNcube-1 satellite which may launch in November, 2013 on a Dnepr rocket from Dombarovsky near Yasny.

FUNcube-1 will be using these frequencies:
• 1200 bps BPSK telemetry beacon on 145.935 MHz
• Linear transponder downlink 145.950-145.970 MHz for SSB/CW communications
• Linear transponder uplink 435.150-435.130 MHz

There will be a presentation on FUNcube-1 at the AMSAT-UK International Space
Colloquium which will be streamed live to the web. The presentation schedule is
here.

Read the BBC News story at

http://www.bbc.co.uk/news/uk-scotland-glasgow-west-23319103

[ANS thanks BBC & AMSAT-UK for the above information]

ARISS Contact with Boy Scouts of America, 2013 National Jamboree, K2BSA, Mount
Hope, WV

An International Space Station school contact has been planned with participants at Boy Scouts of America, 2013 National Jamboree, K2BSA, Mount Hope, WV on 20 July.

The event was scheduled to begin at approximately 15:34 UTC. The duration of the contact was approximately 9 minutes and 30 seconds. The
contact was scheduled to be direct between NA1SS and K2BSA.

The Boy Scouts of America held its first national jamboree in 1937. There have
been 17 jamborees since that first one, typically on a four-year rotation. The
2013 National Scout Jamboree will be the 18th such jamboree. Amateur radio has
been a part of the jamboree experience since 1953, when K6BSA was in operation
from Irvine Ranch in California. That was followed by K3BSA in 1957 at Valley

Forge, Pennsylvania, and K2BSA in 1964 from Colorado Springs, Colorado. K2BSA
was established as the amateur radio station for the national office of the BSA
in 1971. It has been in operation at every jamboree since 1977. Amateur radio
satellite operations have been an element of the K2BSA program for several
jamborees, and the ARISS direct contact with Space Station Commander Doug
Wheelock during the BSA's centennial national jamboree held at Fort A.P. Hill,
Virginia, in 2010 was a highlight of the weeklong K2BSA amateur radio
demonstration.

Participants are scheduled to ask as many of the following questions as time
allows:

1. Were you in Scouting as a youth or as an adult leader?

2. In Scouting we practice "Leave No Trace", meaning that we leave campsites
as we found them. How do you practice "Leave No Trace" in space?

3. I am working on the Robotics Merit Badge and would like to know how robots
are being used on the space station.

4. Have you ever put up a satellite in space?

5. How do you communicate with your family while you are aboard the space
station?

6. What food do you miss the most from Earth?

7. How would you suggest that Scouting promote interest in science,
technology, engineering, and mathematics?

8. What subjects should I study if I want to become an astronaut?

9. Do stars' size and color look different when you see them in space?

10. How many other planets have you seen from the space station?

11. What is the most difficult task during this mission?

12. Can you see meteor showers from the ISS?

13. Do you ever have a good night's sleep on the space station, and do you
dream the same way as you do on Earth?

14. What would you like to do the most after you come back to the earth?

15. What would you like to do in space in the future?

16. How did you become interested in becoming an astronaut?

17. What do you do during your down time aboard the space station?

18. What is the most valuable thing you have learned since becoming an

    astronaut?

19. What does it feel like to walk in space?

20. What do you do if someone needs medical attention while in space?

21. What is one goal you want to achieve as an astronaut?

(ANS thanks David Jordan, AA4KN for this ARISS update)

ARISS Contact with Colegio Urugua, El Pinar, Uruguay

An International Space Station school contact has been planned with participants at Colegio Urugua, El Pinar, Uruguay on 20 July. The event was scheduled to begin at approximately 19:05 UTC. The duration of the contact was approximately 9 minutes and 30 seconds. The contact was scheduled to be a telebridge between NA1SS and LU8YY.

Urugua is a college of primary education with the permission of the national administration of education and culture (ANEP). It has a total of 200 pupils in the schedules of the morning and evening.

Participants are scheduled to ask as many of the following questions as time allows:

1. What motivation led you to become an astronaut?

2. What are the requirements to be an astronaut?

3. How do astronauts train?

4. How does it feel to go from earth to space?

5. How do they get along with you and have a good relationship?

6. How does oxygen inside the ISS?

7. How and where do their physiological needs?

8. What happen if you throw paint in space?

9. What do you do in your free time on ISS?

10. Do you have something to entertain in free time on ISS?

11. How does it feel to be part of the ISS crew?

12. When you return to earth, do you have a period of adjustment?

13. How is the communication from ISS to the earth?

14. How does see the earth from space?

15. What is the thing that you miss of the Earth?

16. What are the most significant scientific goals achieved with the ISS

program?

17. How does it feel to be in space?

18. From space, we can distinguish some human construction?

19. It was possible to demonstrate the existence of extraterrestrial life?

20. What tasks do during the day on the ISS?

(ANS thanks David Jordan, AA4KN for this ARISS update)

ARISS Contact with Scuola Italiana di Montevideo (SIM), Montevideo, Uruguay

An International Space Station school contact has been planned with participants at Scuola Italiana di Montevideo (SIM), Montevideo, Uruguay on 22 July. The event is scheduled to begin at approximately 11:39 UTC. The duration of the contact is approximately 9 minutes and 30 seconds. The contact will be a telebridge between NA1SS and VK5ZAI. The contact should be audible over portions of Australia and adjacent areas. Interested parties are invited to listen in on the 145.80 MHz downlink. The contact is expected to be conducted in Italian.

The SIM is a prestigious educational institution in Uruguay, which has a history of 125 years of uninterrupted work. Provides educational services covering all cycles from the Nursery School to High School. Its building infrastructure is established in an area of over 13 hectares, with large green spaces and vast locations closed and open. Our organization has achieved ISO 9001:2008 certification for the "Design and provision of education for all school years" is the only private educational institution in the country that has achieved this award. The Scuola Italiana di Montevideo account for over fifteen years with astronomical activities cut across the entire institution, through the SIM Astronomical Observatory.

Participants will ask as many of the following questions (translated) as time allows:

1. How do you feel about being in a spaceship in space?

2. What most impresses you of the ISS?

3. What is the mission to accomplish in space?

4. What do you do during the day? What do you do at the station?

5. What kind of research carried out on ISS?

6. How long stay in space?

7. Have some free time? How is it used?

8. Feel the lack of friends and family? Are you in contact with them? How?

9. How many people can live on the ISS?

10. How are the tests that you had to overcome to go into space?

11. How to solve the problems of hygiene: the bathroom, washing hands, washing clothes?

12. It is difficult to return to Earth after the last few months without gravity?

13. How you can see the Earth and the Sun from ISS?

14. When did you realize to become an astronaut?

15. What led you to become an astronaut and how you did it?

16. What does your family think about you?

17. How eat an astronaut?

18. How is it to live without gravity?

19. What's it like to travel in a spaceship?

20. How many times have you gone to space?

(ANS thanks David Jordan, AA4KN for this ARISS update)

ARISS Contact with ESA Space Camp 2013, Radstadt, Austria

An International Space Station school contact has been planned with participants at ESA Space Camp 2013, Radstadt, Austria on 24 July. The event is scheduled to begin at approximately 11:44 UTC. The duration of the contact is approximately 9 minutes and 30 seconds. The contact will be a telebridge between NA1SS and VK4KHZ. The contact should be audible over Australia and adjacent areas. Interested parties are invited to listen in on the 145.80 MHz downlink. The contact is expected to be conducted in English.

The European Space Agency (ESA)space Camp 2013 will be held in Austria at 'JugendhotelBachlehen', 70 km away from Mozart's city of Salzburg, from Sunday 14 July to Sunday 28 July 2013.

165 children aged 8 to 17 years old will be participating in this annual space camp from every ESA establishment in Europe where their parents are working. The children will learn in the spirit of international cooperation and team work to be young space explorers.

The theme of this year's camp is Space Exploration and during the 2 week of the camp the children will be participating in a range of physical and cultural
activities which will include space education.

The space education programme will encourage the children problem solve how to
get to Mars.

Designing a landing system for a rover.The exploration challenges they face will be based on carrying out practical ideas to solve these challenges. How do
we get the rover to Mars - design and construct your rockets and test them with
different payloads. Navigation and communication exercises will enable the payload to land in the right place.

On Landing what kinds of aliens will they find? By looking at the biodiversity
in extreme environments on Earth they can think about and design a possible Martian life form - how does this compare to those they found on Earth?

Food is going to be important on a long space flight - what kinds of foods will be important and what will they taste like. How will they preserve food?

The ARISS contact will give the children a chance to talk to a crew member on
the ISS and enhance their space experience.

Participants will ask as many of the following questions as time allows:

1. Do astronauts dream in space?

2. Do you think you dream differently in space?

3. How does the Earth appear when seen from the ISS?

4. Today, one hears each day about the effects of the climatic changes and the
pollution on our Earth? Do you really see the effects of this pollution
aboard the ISS?

5. What interest is there to be/ to go to space?

6. Knowing that everything flies on-board the ISS, how do you eat?

7. How fast does the rocket travel in space?

8. How do you prepare for a spacewalk?

9. Could you please describe what impress you most when you look

from the window of the ISS?

10. What is your favorite dish and dessert? Do you miss it in space?

11. Could you see an earthquake, tsunami or a flooding from space? How

would it look like?

12. What colors of the earth can you recognize from space?

13. What are three coolest things you have done in space?

14. Can the International Space Station get lost in space?

15. Because night and daylight are different in space, and because

you are always "floating", I was wondering... is it easy to fall asleep

in the ISS?

16. Could 3D printers revolutionize space exploration?

17. Although the long training and, I imagine, the long hours

spent in imagining yourself out in space, now that you are there, can you

tell us whether you have been through some feeling or

experience completely unexpected to you?

18. How many times a day do you see the sunset and the sunrise

from ISS?

19. After the great success of Space Oddity, can you give us a song?

20. How are you dealing with not breathing fresh air? Could you train for

this?

PLEASE CHECK THE FOLLOWING FOR MORE INFORMATION ON ARISS UPDATES:

Sign up for the SAREX maillist at

http://www.amsat.org/mailman/listinfo/sarex

Visit ARISS on Facebook. We can be found at Amateur Radio on the

International Space Station (ARISS).

To receive our Twitter updates, follow @ARISS_status

ARISS is an international educational outreach program partnering the participating space agencies, NASA, Russian Space Agency, ESA, CNES, JAXA, and
CSA, with the AMSAT and IARU organizations from participating countries.

ARISS offers an opportunity for students to experience the excitement of Amateur Radio by talking directly with crewmembers on-board the International
Space Station. Teachers, parents and communities see, first hand, how Amateur
Radio and crewmembers on ISS can energize youngsters' interest in science, technology, and learning. Further information on the ARISS program is available
on the website http://www.ariss.org/ (graciously hosted by the Radio Amateurs
of Canada).

(ANS thanks David Jordan, AA4KN for this ARISS update)

Satelite Shorts From All Over

Scouting STEM Space Jamboree August 2-4 Announced

http://spacejamboree.com/

(ANS thanks JoAnne Maenpaa, K9JKM for the above update)

Mars Day! 2013 at the National Air and Space Museum

Mars Day! is an annual National Air and Space Museum event that celebrates the Red Planet with educational and fun family activities. Visitors can see a real meteorite that came from Mars, talk to scientists active in Mars research and learn about current and future missions.

Mars Day! 2013 will take place on Friday, July 26, 2013, from 10 a.m. to 3 p.m. at the National Air and Space Museum in Washington, D.C.

For more information, visit http://airandspace.si.edu/events/marsday/.

Questions about this event should be directed to the Visitor Service line at 202-633-1000.

[ANS thanks the NASA Education Express for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Joe Spier, K6WAO
k6wao at amsat dot org